



50277-1632

### REMARKS

The new claims are supported by the specification. Therefore, the new claims do not add new matter. Entry of the amendments to the claims is respectfully requested.

Respectfully submitted,

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on 10/31/01 by Trudy Bagdon

**Marked-up Version of Claims**

1 1. (Not Amended) A method of managing a shared object in an object-oriented  
2 environment, the method comprising the steps of:  
3 generating only a single instance of said shared object in response to attempts by a  
4 plurality of clients to create an instance of a particular object belonging to a  
5 class to which said shared object belongs;  
6 a first client of said plurality of clients invoking a first method of said shared object to  
7 register an observer object to notify about an event related to execution of a  
8 particular operation;  
9 each client of said plurality of clients invoking a second method of said shared object  
10 to request execution of said particular operation; and  
11 when the shared object performs the particular operation requested by the first client,  
12 sending a first message to each observer object that has been registered for the  
13 particular operation requested by said first client.

1 2. (Not Amended) The method of Claim 1, wherein the steps further  
2 include sending a second message about another event related to  
3 execution of the particular operation requested by the first client to said  
4 observer object that was registered by said first client.

1 3. (Not Amended) The method of Claim 2, wherein:

2 the step of each client of said plurality of clients invoking a second method includes  
3 said first client invoking said second method to request a first operation that  
4 includes a first subtask and a second subtask;  
5 wherein the first message to the observer object registered by the first client is sent in  
6 response to completing execution of the first subtask; and  
7 wherein the second message to the observer object registered by the second client is  
8 sent in response to completing execution of the first subtask.

1 4. (Not Amended) The method of Claim 1, further including the step of a first client  
2 invoking another method of said shared object to register another observer object  
3 about another event related to execution of said first operation; and  
4 wherein said other method is different than said first method.

1 5. (Not Amended) The method of Claim 1, further including the step of said shared  
2 object creating, for each client of said plurality of clients, a client specific object that  
3 stores data associated with said each client.

1 6. (Not Amended) The method of Claim 5, wherein the method further includes  
2 invoking a particular method of said client specific object created for said first client  
3 that returns information that may be used to access the observer object that was  
4 registered by said first client.

1 7. (Not Amended) The method of Claim 5, wherein the steps further include:  
2 said shared object invoking a method of said client specific object; and

3 in response to said shared object invoking the method of said client specific object,  
4 storing a reference value to the observer object for said first client.

1 8. (Not Amended) The method of Claim 5, wherein the step of invoking the method of  
2 said client specific object is performed in response to the attempt by said first client to  
3 create an instance of a particular object belonging to a class to which said shared  
4 object belongs.

1 9. (Not Amended) The method of claim 1, wherein the steps include:  
2 for each client of said plurality of clients, performing the following steps when the  
3 shared object performs the particular operation requested by said first client:  
4 identifying said each client;  
5 determining whether said each client has registered an observer object about  
6 the event related to execution of the particular operation requested by  
7 said first client; and  
8 if said each client has registered an observer object, then sending a first  
9 message to said observer object by invoking said second method of  
10 said observer object.

1 10. (Not Amended) The method of Claim 1, wherein the step of sending a first message  
2 to each observer object that has been registered for the particular operation requested  
3 by said first client includes sending a first message to each client of said plurality of  
4 clients.

1 11. (Amended) A method of managing a shared object in an object-oriented environment, the  
2 method comprising the steps of:  
3 generating only a single instance of said shared object in response to attempts by a  
4 plurality of clients to create an instance of a particular object belonging to a class  
5 to which said shared object belongs;  
6 a first client of said plurality of clients invoking a first method of said shared object to  
7 register an observer object to notify about an event related to execution of a  
8 particular operation;  
9 each client of said plurality of clients invoking a second method of said shared object to  
10 request execution of said particular operation; and  
11 for each client of said plurality of clients, when the shared object performs the particular  
12 operation [requested by said each] for the first client, sending a first message to  
13 each observer object that has been registered [for] to be informed when the  
14 particular operation [requested by] is performed for said first client.

15  
1 12. (New) A method of accessing a shared object, comprising the steps of:  
2 registering with the shared object one or more observer objects;  
3 wherein each observer object of said one or more observer objects is associated  
4 with at least one client and an operation of the shared object that includes  
5 a plurality of sub-operations; and  
6 when the shared object performs a sub-operation of a particular operation for a  
7 particular client, sending a message to each observer object that is  
8 associated with said particular operation and said particular client.

- 1 13. (New) A method of accessing a shared object, comprising the steps of:  
2 a client informing a shared object that the client is interested in receiving an  
3 indication when the shared object performs sub-operations of a particular  
4 operation for at least one particular client, without receiving indications  
5 when said shared object performs sub-operations of said particular  
6 operation for clients other than said at least one particular client; and  
7 the shared object causing the client to receive an indication when the shared  
8 object performs each sub-operation of the particular operation for said at  
9 least one particular client without causing the client to receive indications  
10 when said shared object performs sub-operations of said particular  
11 operation for clients other than said at least one particular client.